

CLAIMS

What is Claimed Is:

1. In a computing environment having a data communications architecture, a
5 method to process gaps in data communications comprising:
 - generating a control data packet, the control data packet having information indicative of the status of data communication and the sequence of data communications;
 - communicating the control packet of data from a serializer to a deserializer over a data communications channel; and
 - 10 processing the control data packet by the deserializer to identify a data communication gap.
2. The method as recited in claim 1 further comprising encoding data for communications by the serializer.
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3. The method as recited in claim 1 further comprising decoding data received by the deserializer.
4. The method as recited in claim 1 further comprising generating a small packet
20 of data having data representative of data communication gaps.
5. The method as recited in claim 4 further comprising generating a small packet of control information.
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6. The method as recited in claim 5 further comprising communicating the small packet of control information over a dedicated control communications channel.
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7. The method as recited in claim 4 further comprising encoding by the serializer the small packet of control information with a selected value indicating the presence of a data communications gap.
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8. The method as recited in claim 7 further comprising communicating the small packet having the selected value by the serializer to the deserializer in the event that data communications gap is identified by the serializer.

9. The method as recited in claim 8 further comprising upon receiving the micro-packet by the deserializer indicating that there is a gap in data communications, sending a signal by the deserializer to the serializer to proceed with data communications operations.

5 10. A computer readable medium having computer readable instructions to instruct a computer to perform a method comprising:

generating a control data packet, the control data packet having information indicative of the status of data communication and the sequence of data communications;

communicating the control packet of data from a serializer to a deserializer
10 over a data communications channel; and

processing the control data packet by the deserializer to identify data communication gap.

11. A system to process gaps in data communications in a data communications
15 architecture comprising,

a serializer capable of processing packets of data;

a deserializer cooperating with the serializer to receive data packets from the
serializer; and

20 a control data packet having data representative of gaps in data communication between the serializer and the deserializer.

12. The system as recited in claim 11 wherein the control data packet comprises a
small packet.

25 13. The system as recited in claim 12 wherein the control data packet comprises a
selected value indicating a gap in data.

14. The system as recited in claim 13 wherein the deserializer communicates with
the serializer upon receiving a control packet.

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15. The system as recited in claim 14 further comprising a control channel for use
by the serializer and the deserializer for communicating the control packet.

35 16. The system as recited in claim 15 further comprising a data buffer cooperating
with the serializer and the deserializer to store data for communication.

17. The system as recited in claim 16 wherein the communication of the control packet to indicate a gap in data communications occurs at the beginning of a clock cycle.

5 18. The system as recited in claim 16 wherein the communication of the control packet to indicate a gap in data communications occurs at the end of a clock cycle.

19. A method to handle gaps in data communications in a data communications architecture comprising,

10 receiving data by a serializer wherein the data comprises body packets and a header;

processing the data by the serializer to identify any communication gaps; and upon identifying a gap in the data communications generating a small packet of control information to attach to the data for communication from the serializer to a
15 deserializer,

wherein the small packet contains a value indicating a gap in data communications.

20. The method as recited in claim 19 further comprising receiving the small
20 packet of control information identifying a gap in data communications by the deserializer.

21. The method as recited in claim 20 further comprising upon receiving and processing the small packet of control information proceeding with the processing of data by the serializer and the deserializer.

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22. In a computing environment having a data communications architecture, an indicator when a gap in data communications occurs comprising,

a clock providing a period of time in which a serializer and deserializer perform data communications operations;

30 a small packet of control data having information generated by the serializer when a gap in data communications is identified during data communications processing operations; and

an instruction set to provide operating instructions for the serializer and the deserializer to generate the small packet of control data.

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23. The indicator as recited in claim 22 further comprising an instruction set to provide operating instructions for the serializer and the deserializer to process the small packet of control data.